

## ABSTRACT

A process for producing a thermal barrier coating, in which organometal complexes of zirconium and at least one stabilizing element selected from the group of the alkaline earth metals or rare earths are provided as starting substances, the starting substances are evaporated by heating and the coating gases that are generated in this manner are transported to a component to be coated, which is heated at a deposition temperature, where they are broken down so that a layer is deposited, in which process, in order to produce a thermal barrier coating with a columnar structure and a sufficient layer thickness, the starting substances are heated, at a process pressure of 0.5 to 50 mbar, to at most 250°C so that the coating gases are formed, and the coating gases are transported to the component to be coated, the surface of which is heated at a deposition temperature of between 300°C and 1100°C.